

CLAIMS

1. An apparatus for furrow opening in soil including:
a first disc having a blade with an outer perimeter that includes a plurality of symmetrical teeth;
5 a second analogous disc operatively coupled to said first disc; and
wherein said first and second discs are configured to incise and progressively widen a furrow in said soil thereby minimising soil disturbance.
2. An apparatus for furrow opening in soil including:
10 a first disc configured to rotate around a first axis of rotation, said first disc includes a blade outwardly extending from said first axis of rotation, wherein said blade has an outer perimeter includes a plurality of analogous outwardly extending teeth;
a second analogous disc operatively coupled to said first disc and
15 configured to rotate around a second axis of rotation, said second disc mirrors said first disc along a central line of symmetry which is substantially parallel to the direction in which said apparatus travels when a furrow is being created; and
said apparatus includes a leading edge and a trailing edge, wherein said
20 teeth of said first and second discs are in closer proximity at said leading edge than at said trailing edge.
3. An apparatus for furrow opening in soil as in any of the above claims wherein said axes of rotation of said first and second discs are substantially perpendicular to the direction of travel of said apparatus.
- 25 4. An apparatus for furrow opening in soil as in any of the above claims wherein said first and second disc discs are mounted so as to upwardly and rearwardly diverge from each other.
5. An apparatus for furrow opening in soil as in any of the above claims wherein said teeth on the perimeter of the first disc abut the teeth on the
30 perimeter of the second disc at a lower vertical position approximating the soil entry point.

6. An apparatus for furrow opening in soil as in any of the above claims wherein a scraping assembly is associated with the opening disc apparatus to dislodge any soil or straw that adheres to the said first and second discs during operation.
- 5 7. An apparatus for furrow opening in soil as in any of the above claims wherein said first and second discs are configured to rotate in unison wherein said teeth on said first disc aligns with said teeth on said second disc.
- 10 8. An apparatus for furrow opening in soil as in any of the above claims wherein said first disc moves independently from said second disc.
- 15 9. An apparatus for furrow opening in soil including:
a fertiliser furrow opener adapted to create a fertiliser furrow, said fertiliser furrow opener having a first and second disc that include a plurality of teeth;
at least one fertiliser outlet adapted to dispense fertiliser;
a seeding implement having a seeding wheel with an outer circumference that includes a plurality of teeth adapted to create a seeding furrow;
at least one seed outlet adapted to dispense seed; and
20 at least one depth determining apparatus adapted to govern the depth of said fertiliser furrow and said seeding furrow.
- 25 10. An apparatus for furrow opening in soil as in claim 9 wherein said apparatus for furrow opening includes a gear mechanism configured to mechanically couple between said seeding implement and said fertiliser furrow opener.
11. An apparatus for furrow opening in soil as in claim 9 wherein said teeth of said first and second discs are analogous.
12. An apparatus for furrow opening in soil as in claim 9 wherein said teeth of said seeding wheel are analogous.

13. An apparatus for furrow opening in soil as in claim 9 wherein said fertiliser outlet is adapted to dispense fertiliser into said furrow created by said fertiliser furrow opener.
- 5 14. An apparatus for furrow opening in soil as in claim 9 wherein said seeding wheel is adapted to partially fill the furrow created by said fertiliser furrow opener and then create said seeding furrow into which seed, dispensed from said seed outlet, is deposited.
- 10 15. An apparatus for furrow opening in soil as in claim 9 wherein said apparatus includes at least one press wheel adapted to cover said seed with soil.
- 15 16. A method for creating a seed furrow in soil using a furrow opener having a first and second disc, said method includes the steps of:
moving said furrow opener across the surface of said soil, whereby said furrow opener incises the surface of said soil; and
allowing said first and second discs to rotate, wherein said first and second discs are configured to incise and progressively widen said furrow as said furrow opener is moved over the surface of said soil.
- 20 17. An apparatus for furrow opening in soil as in claim 16 wherein said first and second discs rotate about axes of rotation that are substantially perpendicular to the direct of travel of said furrow opener.
18. An apparatus for furrow opening in soil as in claim 9 wherein more than one pair of said discs is attached to an agricultural implement.
19. An apparatus for furrow opening in soil as in claim 9 wherein the depth to which said discs penetrate said soil can be adjusted.
- 25 20. An apparatus for furrow opening in soil substantially as herein before described with reference to Figures 1-5.
21. An apparatus for furrow opening in soil substantially as herein before described with reference to Figures 6-10.

22. An apparatus for furrow opening in soil substantially as herein before described with reference to Figures 11-12b.